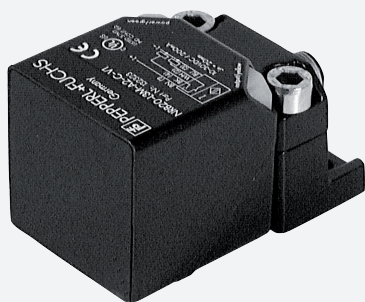


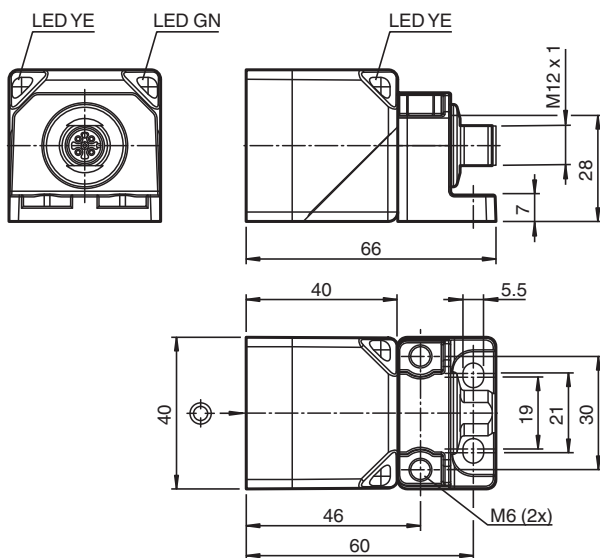


## Inductive sensor NRB20-L3M-A2-C3-V1

- 20 mm flush
- Reduction factor = 1
- Weld Immune
- 2-way LED indicator
- Active surface thermostat



### Dimensions



### Technical Data

#### General specifications

|                             |       |                         |
|-----------------------------|-------|-------------------------|
| Switching function          |       | complementary           |
| Output type                 |       | PNP                     |
| Rated operating distance    | $s_n$ | 20 mm                   |
| Installation                |       | flush                   |
| Output polarity             |       | DC                      |
| Assured operating distance  | $s_a$ | 0 ... 16.2 mm           |
| Actual operating distance   | $s_r$ | 18 ... 22 mm typ. 20 mm |
| Reduction factor $r_{Al}$   |       | 1                       |
| Reduction factor $r_{Cu}$   |       | 1                       |
| Reduction factor $r_{304}$  |       | 1                       |
| Reduction factor $r_{St37}$ |       | 1                       |
| Output type                 |       | 4-wire                  |

#### Nominal ratings

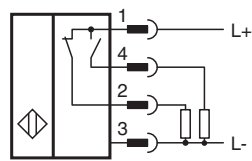
|                   |       |                |
|-------------------|-------|----------------|
| Operating voltage | $U_B$ | 10 ... 30 V DC |
|-------------------|-------|----------------|

## Technical Data

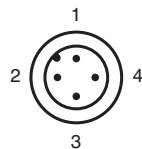
|                                                 |                  |                                                                                                                                                                                         |
|-------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switching frequency                             | f                | 0 ... 440 Hz                                                                                                                                                                            |
| Hysteresis                                      | H                | 3 ... 15 %                                                                                                                                                                              |
| Reverse polarity protection                     |                  | reverse polarity protected                                                                                                                                                              |
| Short-circuit protection                        |                  | pulsing                                                                                                                                                                                 |
| Voltage drop                                    | U <sub>d</sub>   | ≤ 2.5 V                                                                                                                                                                                 |
| Operating current                               | I <sub>L</sub>   | 0 ... 200 mA                                                                                                                                                                            |
| Off-state current                               | I <sub>r</sub>   | 0 ... 0.5 mA typ. 0.01 mA                                                                                                                                                               |
| No-load supply current                          | I <sub>0</sub>   | ≤ 25 mA                                                                                                                                                                                 |
| Time delay before availability                  | t <sub>v</sub>   | 15 ms                                                                                                                                                                                   |
| Constant magnetic field                         | B                | 200 mT                                                                                                                                                                                  |
| Alternating magnetic field                      | B                | 200 mT                                                                                                                                                                                  |
| Operating voltage indicator                     |                  | LED, green                                                                                                                                                                              |
| Switching state indicator                       |                  | LED, yellow                                                                                                                                                                             |
| <b>Functional safety related parameters</b>     |                  |                                                                                                                                                                                         |
| MTTF <sub>d</sub>                               |                  | 1123 a                                                                                                                                                                                  |
| Mission Time (T <sub>M</sub> )                  |                  | 20 a                                                                                                                                                                                    |
| Diagnostic Coverage (DC)                        |                  | 0 %                                                                                                                                                                                     |
| <b>Compliance with standards and directives</b> |                  |                                                                                                                                                                                         |
| Standard conformity                             |                  |                                                                                                                                                                                         |
| Standards                                       |                  | EN IEC 60947-5-2                                                                                                                                                                        |
| <b>Approvals and certificates</b>               |                  |                                                                                                                                                                                         |
| Protection class                                |                  | II                                                                                                                                                                                      |
| Rated insulation voltage                        | U <sub>i</sub>   | 60 V                                                                                                                                                                                    |
| Rated impulse withstand voltage                 | U <sub>imp</sub> | 800 V                                                                                                                                                                                   |
| UL approval                                     |                  | cULus Listed<br>Load Type: General Purpose<br>Circuitry: Class 2 Power Source<br>Enclosure Type Rating: Type 1<br>Supply/Switching Voltage: 30 V DC<br>Output Switching Current: 200 mA |
| CCC approval                                    |                  | CCC approval / marking not required for products rated ≤36 V                                                                                                                            |
| <b>Ambient conditions</b>                       |                  |                                                                                                                                                                                         |
| Ambient temperature                             |                  | -40 ... 85 °C (-40 ... 185 °F)                                                                                                                                                          |
| Storage temperature                             |                  | -40 ... 85 °C (-40 ... 185 °F)                                                                                                                                                          |
| <b>Mechanical specifications</b>                |                  |                                                                                                                                                                                         |
| Connection type                                 |                  | Connector plug                                                                                                                                                                          |
| Housing material                                |                  | GD-ZnAl4Cu1, Coated<br>metal fixing flange, coated.                                                                                                                                     |
| Sensing face                                    |                  | Duroplast                                                                                                                                                                               |
| Degree of protection                            |                  | IP67                                                                                                                                                                                    |
| Connector                                       |                  |                                                                                                                                                                                         |
| Threading                                       |                  | M12 x 1                                                                                                                                                                                 |
| Number of pins                                  |                  | 4                                                                                                                                                                                       |
| Mass                                            |                  | 180 g                                                                                                                                                                                   |
| Dimensions                                      |                  |                                                                                                                                                                                         |
| Height                                          |                  | 40 mm                                                                                                                                                                                   |
| Width                                           |                  | 40 mm                                                                                                                                                                                   |
| Length                                          |                  | 67 mm                                                                                                                                                                                   |

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Connection Assignment



Connection Assignment



Wire colors in accordance with EN 60947-5-2

|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |